



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,744	11/28/2001	Ryo Yamasaki	03500.015971.	8348

5514 7590 12/10/2008
FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

AGGARWAL, YOGESH K

ART UNIT	PAPER NUMBER
----------	--------------

2622

MAIL DATE	DELIVERY MODE
-----------	---------------

12/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/994,744	Applicant(s) YAMASAKI, RYO	
	Examiner YOGESH K. AGGARWAL	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/15/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 2,3 and 5-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 4 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leitz (US Patent # 4,071,297) in view of Mimura et al. (US Patent # 6,927,792).

[Claim 1]

Leitz teaches an image pickup apparatus (figure 7), comprising: a plurality of pixels (5r, 5r', 5g and 5g') each including a first sensitive area and a second sensitive areas (photoelectric portions 5g and 5g' are considered one pixel pair and photoelectric portions 5r and 5r' is considered another pixel pair, col. 4 lines 40-44), wherein the first and second sensitive areas receive light flux respectively corresponding to different areas of an exit pupil of an imaging optical system (1, See figure 7) wherein two photoelectric conversion portions (e.g. 5g and 5g') are formed in each of the plurality of pixels based on the first and second sensitive areas,

an output unit (9' and 9'') that receives outputs a first electric signal and a second electric signal from each of the plurality of pixels and that detects and outputs a phase difference between corresponding first electric signal and the second electric signals from each of the plurality of pixels (col. 4 lines 53-60),

Art Unit: 2622

wherein the first and second sensitive areas of each of the plurality of pixels are arranged so that corresponding first and second electric signals, received by the output unit, each includes signals generated in the first and second sensitive areas of a corresponding one of the plurality of pixels (col. 4 lines 44-col. 5 line 10).

Leitz fails to teach wherein a sensitivity distribution of the first sensitive area and a sensitivity distribution of the second sensitive area partially overlap. However Merrill discloses an image pickup apparatus comprising (figure 1) an arrangement of a plurality of pixel units each including a first photoelectric conversion unit (photodiode, 12) and a second photoelectric conversion unit (photodiode 14) wherein each of the pixel units includes a sensitivity region where a first sensitivity distribution (represented by a curve A) by said first photoelectric conversion unit (12) and a second sensitivity distribution (represented by a curve B) by said second photoelectric conversion unit overlap (col. 4 lines 27-44, figure 2). Therefore taking the combined teachings of Leitz and Merrill, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have each of the pixel units includes a sensitivity region where a first sensitivity distribution by said first photoelectric conversion unit and a second sensitivity distribution by said second photoelectric conversion unit overlap in order to have a larger dynamic range thereby improving focusing in low light and high light levels (See Merrill, col. 1 lines 38-42 and col. 2 lines 8-11).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leitz (US Patent # 4,071,297), Mimura et al. (US Patent # 6,927,792) and in further view of Wu et al. (US Patent # 5,760,852).

[Claim 4]

Art Unit: 2622

Leitz in view of Mimura teach the limitations of claim 1 but fails to teach wherein the first and sensitivity areas are formed on the basis of an F-number of the imaging optical system of a focus detection mode. However Wu et al. teaches that sensitivity of the CCD array (It is noted that the first and second sensitive areas of a pixel unit are included in a CCD array) can be adjusted by controlling electronic gain and the f-number of the objective lens (col. 7 lines 22-24). A focus detection mode would be inherently taught. Therefore taking the combined teachings of Leitz, Mimura and Wu, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have sensitivity region formed on the basis of an F-number of the imaging optical system of a focus detection mode in order to have a device that can be used in a wide variety of lighting conditions.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2622

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH K. AGGARWAL whose telephone number is (571)272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yogesh K Aggarwal/
Primary Examiner, Art Unit 2622